

SEQUENCE LISTINGS

<110> Hanmi Pharm. Co., Ltd.

<120> EXPRESSION VECTOR FOR SECRETING ANTIBODY FRAGMENT USING E. COLI SIGNAL SEQUENCE AND METHOD FOR MASS-PRODUCING ANTIBODY FRAGMENT

<130> Q94300

<140> 10/576,068

<141> 2006-04-14

<150> KR1020030072216

<151> 2003-10-16

<150> PCT/KR04/02625

<151> 2004-10-14

<160> 36

<170> KopatentIn 1.71

<210> 1

<211> 75

<212> DNA

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ggggacagag tcacc 75

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ggtgactctg tccccctacag 80

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<211> 80

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tgcaatcagg ggtcccatct						80
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ccatcagcag	cctacagcct	gaagatgttg	caacttatta	ctgtcaaagg	tataaccgtg	60
cacccgtatac ttttggccag						80
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tttgatttcc	accttggtcc	cctggccaaa	agtatacggt	g	41	
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<400>    7
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<210>    8
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<400>    8
agcttgcgg acccagtgc tggataatc atcaaagggtg aatccagagg ccgcacagga          60
gagtctcagg gacctgccg                                         79

<210>    9
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<400>    9
tgcactgggt ccggcaagct ccagggaaagg gcctggaatg ggtctcagct atcacttgga          60
atagtggta catagactat                                         80

<210>   10
<211>   80
<212> DNA
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<220>
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<400>   10
atacagggag ttcttggcgt tgtctctgga gatggtaat cggccctcca cagagtccgc          60
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<210>   11
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<400>    11
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<212>    DNA
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<400>    12
cactcgagac ggtgaccagg gtaccttggc cccaatagtc aaggaggac gcggtgctaa      60
ggtagcagac tttcgacacag taat                                         84

<210>    13
<211>    39
<212>    DNA
<213>    Artificial Sequence

<220>
<223>    RT-PCR forward primer specific for heavy chain

<400>    13
cccaagctta ggccctccacc aagggccat cggtcttcc                         39

<210>    14
<211>    48
<212>    DNA
<213>    Artificial Sequence

<220>
<223>    RT-PCR reverse primer specific for heavy chain

<400>    14
gggggatcct tatgggcacg gtgggcatgt gtgagtttg tcacaaga                  48

<210>    15
<211>    42
<212>    DNA
<213>    Artificial Sequence

<220>
<223>    RT-PCR forward primer specific for light chain

<400>    15

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cccaagcttt cgcgaaactgt ggctgcacca tctgtcttca tc 42

<210> 16  
<211> 42  
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<213> Artificial Sequence

<220>  
<223> RT-PCR reverse primer specific for light chain

<400> 16  
cccgatccc taacactctc ccctgttcaa gctctttgtg ac 42

<210> 17  
<211> 69  
<212> DNA  
<213> modified E. coli thermostable enterotoxin II signal sequence

<400> 17  
atgaaaaaga caatcgatt tcttcttgca tctatgttcg tttttctat tgctacaaat 60

gcccaggcgc 69

<210> 18  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> forward primer containing StuI restriction enzyme site

<400> 18  
tctattgcta caaatgccca ggccttccca accattccct tatcc 45

<210> 19  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> reverse primer containing StuI restriction enzyme site

<400> 19  
agataaacgat gtttacgggt ccggaagggt tggtaaggga atagg 45

<210> 20  
<211> 51  
<212> DNA  
<213> Artificial Sequence

<220>

<223> reverse primer specific for light chain

<400> 20  
ggggatcct cacgcggcgc atgtgtgagt tttgtcacaa gattnaggct c 51

<210> 21  
<211> 43  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> forward primer containing SD sequence and BamHI restriction enzyme site

<400> 21  
ggggatcca ggaggtgatt tatgaaaaag acaatcgcat ttc 43

<210> 22  
<211> 44  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> forward primer containing BpuI restriction enzyme site

<400> 22  
ggggctgagc aggaggtgat ttatgaaaaa gacaatcgca ttcc 44

<210> 23  
<211> 52  
<212> DNA  
<213> Artificial Sequence

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<223> reverse primer containing BpuI restriction enzyme site

<400> 23  
ggggctcagc tcacgcggcgc catgtgtgag ttttgtcaca agattnaggc tc 52

<210> 24  
<211> 63  
<212> DNA  
<213> E. coli OmpA signal sequence

<400> 24  
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aa  
gct 63

<210> 25  
<211> 30

<212> DNA  
<213> Artificial Sequence

<220>  
<223> forward primer specific for heavy chain

<400> 25  
gaggttcagc tagtcgagtc aggaggcggt 30

<210> 26  
<211> 51  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> forward primer containing HindIII and StuI restriction enzyme sites

<400> 26  
gggagatctt cacgcggcgc atgtgtgagt tttgtcacaa gatttaggct c 51

<210> 27  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> reverse primer containing stop codon and BamHI restriction enzyme site

<400> 27  
gacattcaaaa tgacccagag cccatccagc 30

<210> 28  
<211> 42  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> forward primer containing HindIII and NruI restriction enzyme sites

<400> 28  
cccagatctc taacactctc ccctgttgaa gctctttgtg ac 42

<210> 29  
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<220>  
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<400> 29		
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<223> forward primer specific for modified E. coli enterotoxin II signal peptide and containing NdeI restriction enzyme site		
<400> 31		
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<211> 705		
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<223> TNF-alpha heavy chain		
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tcctgtgcgg cctctggatt caccttgat gattatgcca tgcactgggt ccggcaagct		120
ccagggaaagg gcctggaatg ggtctcagct atcacttgga atagtggtca catagactat		180
gcggactctg tggagggccg attcaccatc tccagagaca acgccaagaa ctccctgtat		240
ctgcaaatga acagtctgag agctgaggat acggccgtat attactgtgc gaaagtctcg		300
taccttagca ccgcgtcctc ccttgactat tggggccaag gtaccctggc caccgtctcg		360
agtgcctcca ccaaggcccc atcggcttcc cccctggcac cctcctccaa gagcacctct		420
gggggcacag cggccctggg ctgcctggc aaggactact tccccgaacc ggtgacggtg		480
tcgtggaact caggcgccct gaccagcggc gtgcacacct tcccggtgt cctacagtcc		540

tcaggactct actccctcag cagcgtggtg accgtgcctt ccagcagctt gggcacccag 600  
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cccaaatctt gtgacaaaac tcacacatgc ccaccgtgcc catag 705

<210> 33  
<211> 645  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> TNF-alpha light chain

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gggaaagccc ctaagctcct gatctatgct gcatccactt tgcaatcagg ggtcccatct 180  
cggttcagtg gcagtggatc tggacagat ttcactctca ccatcagcag cctacagcct 240  
gaagatgttgc aacttatta ctgtcaaagg tataaccgtg caccgtatac ttttggccag 300  
gggaccaagg tggaaatcaa acgaactgtg gctgcaccat ctgtcttcat cttcccgcca 360  
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cccagagagg ccaaagtaca gtggaaagggtg gataacgccc tccaatcggg taactcccag 480  
gagagtgtca cagagcagga cagcaaggac agcacctaca gcctcagcag caccctgacg 540  
ctgagcaaag cagactacga gaaacacaaa gtctacgcct gcgaagtcac ccatcaggc 600  
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<210> 34  
<211> 7  
<212> PRT  
<213> TNF-alpha light chain

<400> 34  
Asp Ile Gln Met Thr Gln Ser  
1 5

<210> 35  
<211> 8  
<212> PRT  
<213> TNF-alpha heavy chain

<400> 35  
Glu Val Gln Leu Glu Val Asp Ser  
1 5

<210> 36  
<211> 12  
<212> PRT  
<213> N-terminal sequence of recombinant TNF-alpha

<400> 36  
Asp Glu Ile Val Gln Met Leu Thr Val Gln Asp Ser  
1 5 10